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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,771	02/04/2004	Hiroyuki Nagao	60674 (49381)	3540
21874 7590 07/13/2007 EDWARDS ANGELL PALMER & DODGE LLP P.O. BOX 55874 BOSTON, MA 02205			EXAMINER KUMAR, RAKESH	
			ART UNIT 3654	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/772,771	Applicant(s) NAGAO ET AL.	
	Examiner Rakesh Kumar	Art Unit 3654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims.

- 4) ☒ Claim(s) 1, 7, 9-12, 14-17, 19, 20 and 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 24-7, 9-12, 14-17, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Final Rejection

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,2,4-7,9-12,14-17,19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hattori (US 6,091,927) in view of Hirota (US 6,585,258).

Referring to claims 1,4,6, 9,11,14,16 and 19. Hattori discloses a sheet feeding apparatus comprising:

a sheet container (7) for containing a plurality of stacked sheets (5);

an elevation lowering driving unit (33) for elevating and lowering the sheet container (7);

a sheet conveying unit (8) for sequentially taking out the sheets (5) from an uppermost layer (top most sheet in stack 5) put in contact with the sheet conveying unit (8) by elevating the sheet container (7) by the elevation lowering driving unit (33), and conveying the sheets (5) to a predetermined conveyance path (see path in Figure 1);

[Hattori further teaches when the elevation lowering unit (33) is driven, it raises the sheet container (7) in order to engage the documents (5) into pressing contact with

the sheet conveying unit (8). It is understood by the Office to mean that when a stack of media sheets (5) of unknown height are raised and is continued to be raised, until the top most media sheet (5) initiates contact with the sheet conveying unit (8), at that point of reference the elevation lowering unit (33) stops driving the sheet container (7) upwards, this is understood as a sensory input which dictates the stopping of the elevation lowering unit (33) from continuously or further raising the topmost media sheets (5) beyond the contact point with the sheet conveyance unit (8; Col. 5 line 8-15).]

Hattori does not disclose a regulating unit positioned on the sheet container and further, does not disclose a position detector for detecting the position of the regulating unit.

Hirota teaches of a regulating unit (13) to be moveably mounted and the position of the regulating unit (13) to be verifiable by the disposed sensors (S1) on the apparatus. The sensors are positioned to allow a signal to the controller to be sent and thus the position of the regulating unit (13) can be determined. Hattori also teaches of using the sensors (S1) to detect the size dimensions of the sheet contained in the sheet container so that multiple size sheets can be used to feed into the apparatus (Col. 5, lines 29-36).

It would have been obvious to one of ordinary skill in the art at the time invention was made to modify the teachings to Hattori in view of Hirota to include modification of the input received from the regulating unit as detected by the positioned sensors when the position of the regulating unit is altered to instruct the elevation lowering driving unit

to lower the sheet container from initiating contact with the sheet conveyance unit. This is a slight modification over Hattori in (Figure 6), where it is disclosed that the sheet container "return" to its original position after dispensing the documents that were positioned on the sheet container (7). By lowering the sheet container from contacting the sheet conveying unit by sensing the position change of the regulating unit will allow a user to easily add or remove sheets from the sheet container and prevent damage to the pickup roller and prevent contamination marks on the sheets.

Hattori discloses a CPU (29) and a receiving unit (28) for receiving information according to the sensors positioned throughout the apparatus and storing the received information. Hattori also discloses the sheet container (7) is lowered to its "preselected" position away from the sheet conveyance unit (8) when a signal is received to disengage the sheet container (7) from the roller (Col. 7 line 7).

Hattori et al. does not specifically disclose of using a regulating unit to detect a change in the position of the regulating unit in the apparatus.

Hirota et al. discloses sensors being able to detect a change in the position of the regulating unit (13).

It would have been obvious to one of ordinary skill in the art at the time invention was made to modify the teachings of Hattori in view of Hirota to include a sheet conveyance unit (8) and the sheet container (7) are disengaged by a "predetermined" amount as initially set and stored in the receiving unit (28) as disclosed by Hattori when the position of the regulating unit is changed and detected. As a result, the sheet

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conveyance roller can be prevented from being damaged and the leading edges of the sheet from being contaminated.

Referring to claims 2,7,12 and 17. See Claim 1. Hattori discloses using the elevation lowering driving unit (33) to lowering the sheet container (7) until the uppermost layer of the sheets in contact with the sheet conveying unit 8 are separated from each other by the means of a controller. This step occurs when a detector detects a paper jam, or is engaged into a power save mode or when the documents 5 are expected to be rearranged in the sheet container (Col. 7 lines 1-16).

Hattori does not disclose of using a regulating unit in the apparatus.

Hirota discloses sensors being able to detect a change in the position of the regulating unit 13.

It would have been obvious to one of ordinary skill in the art at the time invention was made to modify the teachings to Hattori in view of Hirota to include sensors and a regulating unit (13) where a change in the position of the regulating unit (13) can be detected by the sensors and as a result remove the sheet container (7) from the sheet conveying unit (8) by the means of the elevation lowering driving unit (33), as a result, be able to add or load documents whenever the position of the regulating unit is changed.

Referring to claims 5,10,15 and 20. Regarding claim 5, Hattori discloses the embodiment to allow a preslected waiting time to be set between the document stacking time and elevation of the sheet container (Col. 9 lines 23-30).

Hirota discloses sensors being able to detect a change in the position of the regulating unit (13).

It would have been obvious to one of ordinary skill in the art at the time invention was made, to modify the teachings to Hattori in view of Hirota to modify the apparatus such that when the documents are loaded onto the sheet container (7) and no position change is detected in the regulating unit the clocking mechanism begins, waiting for a predetermined time as disclosed by Hattori and then elevating the sheet container (7) to engage the sheet conveyance unit. As a result, the wear on the elevating and lowering driving unit is minimized as the apparatus waits for all the documents to be loaded prior to engaging the sheet conveyance unit.

Response to Arguments

Applicant's arguments filed 02/07/2006 have been fully considered but they are not persuasive for reasons detailed below.

The Applicant argues, "None of the cited prior art, taken alone or in combination, teach or suggest the presently claimed sheet feeding apparatus."

In response as stated in rejection under 35 U.S.C. 103(a) in this Office (Paragraph 1 and 2);

Hirota teaches of a regulating unit (13), being movable (slidable) in the width direction of the documents positioned on sheet container (2), thus is considered to regulate a set position of a sheet. Hirota further discloses, "the width of documents is detected by the position of this guide plate", (Col. 5 line 3) thus, an undisclosed position detector for detecting the position of the regulating unit on the tray (2).

Hattori teaches "the motor (33) is driven to raise the bottom plate (7; step S25) until the documents (5) on the table (6) have been pressed against the pick-up roller (8)", (lift up sensor 27; Col. 7 line 22-34), thus indicating a contact detector for detecting a contact state of when the uppermost sheet of the contained stack in the container contacts the sheet conveying unit.

The reference of Hattori teaches the elevation/lowering driving unit (33) lowers or elevates the sheet container (7) per input signal received from either a user input or an internal sensor (lift sensor 27) when the stated task is completed (Col. 5 line 8-15, Col. 7 line 5-10). It would have been obvious to one of ordinary skill in the art at the time invention was made to have modified the teaching of Hattori in view of Hirota such that when a signal (change in position of the regulating unit of Hirota) is received by the controller of the apparatus, the elevation/lowering driving unit (33) of Hattori lowers the sheet container to either reposition or add/remove documents from the tray.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that the reference stated in the Office are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Optiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both references of Hattori and Hirota disclose automatic document feeders to feed sheet through the apparatus.

Applicant's arguments filed 04/17/2007 have been fully considered but they are not persuasive.

The applicant argues Hattori nor Hirota, nor their combination teaches or suggests "a receiving unit for receiving information according to a lowered amount of the sheet container". In the view of the office, the CPU (29) comprising a receiving unit (28; Figure 3) is connected to a motor linked to a set up sensor (21) and a lift up sensor (27). Thus, in the initial set up when the tray is lowered to its resting position, the position of the tray is stored by the receiving unit. As a result, the receiving unit receives information according to a predetermined lowered amount of the sheet container.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wenthe (US 6,059,279) disclose a lowering sheet pickup mechanism.

Ohkawa (US 6,279,893) disclose a sheet feeder for image forming apparatus.

Nakagawa (US 5,552,859) disclose a sheet feeder for image forming apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rakesh Kumar whose telephone number is (517) 272-8314. The examiner can normally be reached on 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Crawford can be reached on (571) 272-6911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


GENE C. CRAWFORD
SUPERVISORY PATENT EXAMINER

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July 7, 2007